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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,888	05/18/2006	Didier Courtois	112701-734	8588
29157	7590	10/05/2009	EXAMINER	
K&L Gates LLP			KETTER, JAMES S	
P.O. Box 1135				
CHICAGO, IL 60690				
			ART UNIT	PAPER NUMBER
			1636	
			NOTIFICATION DATE	DELIVERY MODE
			10/05/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

chicago.patents@klgates.com

Office Action Summary	Application No. 10/595,888	Applicant(s) COURTOIS ET AL.	
	Examiner James S. Ketter	Art Unit 1636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-10 and 14-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-18 is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-9 and 14 is/are rejected.
- 7) ☒ Claim(s) 5, 6 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Upon reconsideration of the prior art, the reference to Parks, cited below, is found to be applicable against some of the pending claims. A new ground of rejection is set forth below. The indicated allowability of all pending claims previously made of record is hereby withdrawn. The delay in identifying this reference and applying it as prior art is regretted.

Claims 5, 6 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 15-18 are allowed.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7-9 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Parks (L, newly cited).

Claim 1 is drawn to a bioreactor for culturing living cells in a liquid medium comprising: at least one stationary tank enclosing the cells and liquid culture medium, and at least one means for introducing single large gas bubbles at a bottom of the vessel, the single large bubble width from 50 to 99% of the tank width. Claim 2 specifies within claim 1 that the single large bubble has a volume of at least 65 cm³. Claim 3 specifies within claim 1 that the bioreactor comprises a

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means for programming volume and frequency of large bubbles. Claim 7 specifies within Claim 1 that the tank has a cross-sectional shaped selected from the group consisting of cylindrical and oval. Claim 8 is drawn to a method for culturing cells selected from the group consisting of plant, animal cells and micro-organisms comprising the steps of using at least one stationary tank enclosing the cells and liquid culture medium, and introducing single large gas bubbles having a width from 50 to 99% of a width of the tank at a bottom of the vessel. Claim 9 is drawn to a method for culturing cells and producing biomass cells, embryonic plant cells, metabolites, secondary plant metabolites, and recombinant molecules comprising the steps of using at least one stationary tank enclosing the cells and liquid culture medium, and introducing single large gas bubbles having a width from 50 to 99% of a width of the tank at a bottom of the vessel. Claim 14 is drawn to a bioreactor for culturing living cells in a liquid medium comprising: at least one stationary tank enclosing the cells and liquid culture medium, and an inlet allowing a single large gas bubble to be received at a bottom of the vessel, the single large bubble having a width that is 50 to 99% of the tank width.

Parks teaches, e.g., at Figure 1, a reactor vessel in which a single bubble of air is released from the bottom, the bubble being depicted as greater than half the width of the interior of the vessel. At page 4, lines 20 and 21, it is taught that the invention encompasses sewage treatment apparatus and methods. Sewage treatment conventionally uses growth of microbial cells in the contaminated water being treated, to remove the contaminants by subsequently removing the cells. Some of this growth is attributable to cryptic growth which utilizes material lost from lysed cells, which material would inherently comprise metabolites.

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites “biomass cells, embryonic plant cells, metabolites, secondary plant metabolites, and recombinant molecules”, using “and” as the conjunction. However, as written, all members of this list of produced materials must be produced, not merely one of them. It would appear from the specification that the conjunction “or” would have been intended to define the invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Ketter whose telephone number is 571-272-0770. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Christopher Low can be reached on 571-272-0951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSK

1 October 2009

/James S. Ketter/

Primary Examiner, Art Unit 1636